

# **2013 ANNUAL FIRE WEATHER REPORT**

**NATIONAL WEATHER SERVICE FORECAST OFFICE  
FLAGSTAFF, ARIZONA**

15 January 2014

MEMORANDUM FOR: W/WR1x3 – Claudia Bell

FROM: Robert Bohlin/ FGZ FWX Program Manager

THROUGH: Brian Klimowski/ FGZ MIC

SUBJECT: Annual Fire Weather Report for 2013

## 1. OVERVIEW

We focused our outreach efforts this year on the Search & Rescue community. In past years we received numerous phone calls from Search & Rescue teams requesting weather information. We believed that briefing the Search & Rescue teams on National Weather Service operations and teaching them how to submit spot forecast requests would enhance their decision making abilities. Several meetings and training sessions were held with members of Coconino County Search & Rescue that have resulted in a growing partnership between the National Weather Service and the largest Search & Rescue mission in our forecast area.

The 2013 fire season in northern Arizona was similar to 2012, characterized by an extended dry period with mostly low end red flag wind events. Spot forecast numbers dropped this year mainly due to the October U.S. government shutdown that impacted the fall peak burning season. Red flag warning verification scores this year were also similar to last year's numbers. Dry spring weather conditions along with record heat in June contributed to our two largest wildfires that burned up 15,167 acres of land in Yavapai County.

On June 18<sup>th</sup> 2013 the Doce Wildfire was started in the Granite Mountain Wilderness roughly 8 miles northwest of Prescott, Arizona. This fire, which consumed around 6,767 acres, was likely human caused and resulted in hundreds of people evacuated from their homes.

On June 28<sup>th</sup> 2013 the Yarnell Hill wildfire started burning 3.5 miles west of Yarnell, Arizona. The wildfire was started by lightning at the end of our peak fire season and eventually consumed 8,400 acres of land. On June 30<sup>th</sup>, 127 homes were destroyed in Yarnell and 19 fire fighters with the Granite Mountain Hotshots tragically lost their lives fighting this fire. A Serious Accident Investigation report of the events leading up to this tragedy can be found on the Arizona State Forestry Division website: <http://fire.az.gov/>

### Fire Weather Forecast Product Summary:

Spot Forecasts:	306	(367)
Fire Weather Watches:	126	(172)
Red Flag Warnings:	194	(199)

*(Totals for 2012)*

## 2. QUARTERLY WEATHER SUMMARY

**JAN-MAR:** Temperatures were below normal across northern Arizona in January and February with below normal rain and snow. In March temperatures were well above normal with continued dry weather conditions. March became the first month in a long dry spring.

**APR-JUN:** Extremely dry conditions continued through May. June is our driest month in northern Arizona and June 2013 was no exception with almost no precipitation coupled with record breaking heat. The bulk of our Fire Weather Watches and Red Flag Warnings were issued during the spring quarter.

**JUL-SEP:** The summer monsoon season developed right on time in July with record setting rainfall in some locations. Flagstaff reported 7.57 inches of rainfall, which is the second highest monthly rainfall total in our 115 year record. The 2013 Jul-Sep monthly rainfall amounts were roughly double our normal totals with many stations running 100-200% of normal each. Rainfall amounts this high will likely increase understory growth for the spring 2014 fire season. Let's hope for an extended spring snowpack.

**OCT-DEC:** Colder and drier conditions were observed in the fall and early winter. One exception to this extended drought occurred in November with one extremely moist weather system that brought our monthly precipitation totals to 150-400% of normal. During the months of October and December, most stations recorded roughly 50% or less of our normal expected precipitation.

## 3. RED FLAG WARNING VERIFICATION FOR 2013:

Total Red Flag Warnings: 194  
Correct Warnings: 127  
Incorrect Warnings: 67  
Unwarned Events: 7

	<b>2013</b>	<i>2012</i>
Probability Of Detection(POD):	<b>0.95</b>	<i>0.91</i>
False Alarm Rate(FAR):	<b>0.35</b>	<i>0.30</i>
Critical Skill Index(CSI):	<b>0.63</b>	<i>0.66</i>
Average Lead Time:	<b>25hr 05min</b>	<i>25hr 34min</i>

## 4. SPOT FORECAST SUMMARY

Wildfire forecasts:	161
Prescribed Burn forecasts:	136
Search & Rescue forecasts:	8
Hazmat:	1
<b>Total:</b>	<b>306</b>

## 5. INCIDENT METEOROLOGIST DISPATCHES FOR 2013

Our IMET's...

Tom Clemmons provided on-site support to one fire:

Forks Complex, CA (Klamath N.F.)	August 19-28	9 days
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Mark Stubblefield, provided on-site support to two fires:

Jaroso Fire, NM (Santa Fe N.F.)	June 12-18	7 days
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Dean Peak Fire, AZ (Colorado River BLM)	July 3-7	5 days
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**Number of IMET Dispatches: 3**

**Number of IMET Dispatch days: 21**

## 6. FIRE WEATHER TRAINING ASSIGNMENTS

<u>Course</u>	<u>Date</u>	<u>Agency</u>
NAU	Jan 31	Northern Arizona University School of Forestry
S-290	Feb 4-5	
S-290	March 10-13	Prescott (Fire Academy)
S-390	March 10-13	Prescott (Fire Academy)
Fire Lookout	July 1	Coconino National Forest

## 7. FIRE WEATHER OUTREACH MEETING SUMMARY

- Joint Fire Science Council Meetings (Monthly)
- USFS Region 3 AOP Virtual Meeting (Feb)
- Ponderosa Fire Advisory Council Seasonal Briefing (Mar)
- Prescott Wildfire Expo (Apr)
- Prescott Town Hall Community Fire Weather Discussion (Embry Riddle - Apr)
- Prescott N.F. Seasonal Fire Weather Refresher (Apr)
- Sedona 911 Regional Center Weather Outreach (Apr)
- Southwest Joint Fire Science Executive Board Retreat (Apr)
- Weather Hazards AZ Seasonal Refresher Coconino Fire Prevention Staff (May)
- Weather Hazards AZ Seasonal Refresher Mormon Lake Hotshots (May)
- Coconino County Search & Rescue Spot Forecast Meeting (Nov)
- AZ Prescribed Fire Conference Calls (Weekly - Fall)
- Wildland Fire Pre-Holiday Briefing (Flagstaff)
- Doce Fire Flood / Fire Open House (Prescott)